

tinuous, non-contiguous manner, inside the fluidic channel **861** through an adhesive coating on the underside of each individual pad **863**.

[0119] Referring to FIG. **9a**, reagent, sensor and absorbent pads **902** are integrated into the channels **901** of the fluidic chip **900** as part of the assembly **903**. Said supporting assembly **903** consists of a non-porous material. The reagent, sensor and absorbent pads **902** are attached to the supporting assembly **903** as discretely spaced entities at appropriate locations in a discontinuous, non-contiguous manner, through suitable assembly techniques. In various embodiments, said supporting assembly **903** has a strip format with typical dimensions in the range of about 1.3 mm to about 5 mm in width, about 0.05 mm to about 1.00 mm in height and about 5 mm to about 50 mm in length.

[0120] Referring to FIG. **9b**, the pad supporting assembly **911** is an embodiment of the assembly **903**, whereby the reagent, sensor and absorbent pads **912** are attached onto the assembly in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, by means of suitable bonding techniques, for example drying, annealing etc.

[0121] Referring to FIG. **9c**, in a pad supporting assembly **921**, reagent, sensor and absorbent pads **922** are attached onto the assembly in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, through recesses, which form part of the support assembly's structure **921** and which accommodate part of the pad structure **922**. Said recesses may be in the horizontal or vertical plane or in both the horizontal and vertical plane. In various embodiments, said recesses have typical dimensions in the range of about 0.1 mm to about 1 mm in width, about 0.05 mm to about 1.00 mm in height and about 1 mm to about 50 mm in length.

[0122] Referring to FIG. **9d**, in a pad supporting assembly **931** the reagent, sensor and absorbent pads **932** are attached onto the assembly in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, via a continuous adhesive coating **933** which forms part of the base of the support structure **931**.

[0123] Referring to FIG. **9e**, in a pad supporting assembly **941** reagent, sensor and absorbent pads **942** are attached in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, inside recesses **943**, which have an adhesive coating at their base, and which form part of the support structure **941**. Said recesses may be formed by means of a nonporous mask **944** directly applied onto the adhesive coating, with spaces provided in this masks with typical dimensions in the range of about 0.1 mm to about 1 mm in width, about 0.05 mm to about 1.00 mm in height and about 1 mm to about 50 mm in length.

[0124] Referring to FIG. **9f**, in a pad supporting assembly **951** the reagent, sensor and absorbent pads **952** are attached in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, via single or multiple discontinuous areas of adhesive coatings **953**, which form part of the support structure **951**. Said coatings have typical dimensions in the range of 0.25 mm to 5 mm in width and 0.5 mm to 25 mm in length.

[0125] Referring to FIG. **9g**, in a pad supporting assembly **961** the reagent, sensor and absorbent pads **962** are attached onto the assembly in discrete and separate positions at appropriate locations in a discontinuous, non-contiguous manner, through an adhesive coating on the underside of each indi-

vidual pad **963**. Said coatings have typical dimensions in the range of about 0.25 mm to about 5 mm in width and about 0.5 mm to about 25 mm in length.

[0126] Referring to FIG. **10a**, a pad supporting assembly **1012** is integrated into the channels **1011** of the fluidic chip **1010** by means of suitable assembly techniques. The support assembly **1012** is held in place via the surrounding walls of the fluidic channel **1011**.

[0127] Referring to FIG. **10b**, a pad supporting assembly **1022** is integrated into the channels **1021** of the fluidic chip **1020** by means of suitable assembly techniques. The support assembly **1022** is held in place via recesses, which form part of the channel structure **1021** and which accommodate part of the pad assembly structure **1022**. Said recesses may be part of the horizontal or vertical or horizontal and vertical channel walls **1021**. In various embodiments, said recesses have typical dimensions in the range of about 0.1 mm to about 2 mm in width, about 0.05 mm to about 1.00 mm in height and about 1 mm to about 50 mm in length.

[0128] Referring to FIG. **10c**, in various embodiments, the pad supporting assembly **1032** is integrated into the channels **1031** of a fluidic chip **1030** by means of suitable assembly techniques. The support assembly **1032** is held in place via a continuous adhesive coating **1033** which forms part of the base of the channel structure **1031**. In various embodiments, said coatings have typical dimensions in the range of about 0.25 mm to about 5 mm in width and about 0.5 mm to about 25 mm in length.

[0129] Referring to FIG. **10d**, a pad supporting assembly **1042** is integrated into the channels **1041** of a fluidic chip **1040** by means of suitable assembly techniques. The support assembly **1042** is held in place in discrete and separate positions inside recesses **1043**, which have an adhesive coating at their base, and which form part of the channel structure **1041**. Said recesses have typical dimensions in the range of about 0.1 mm to about 5 mm in width, about 0.05 mm to about 1.00 mm in height and about 1 mm to about 25 mm in length.

[0130] Referring to FIG. **10e**, a pad supporting assembly **1052** is integrated into the channels **1051** of a fluidic chip **1050** by means of suitable assembly techniques. The support assembly **1052** is held in place via single or multiple discontinuous areas of adhesive coatings **1053**, which form part of the channel structure **1051**. Said coatings have typical dimensions in the range of 0.25 mm to 5 mm in width and 0.5 mm to 25 mm in length.

[0131] Referring to FIG. **10f**, a pad supporting assembly **1062** is integrated into the channels **1061** of a fluidic chip **1060** by means of suitable assembly techniques. The support assembly **1062** is held in place through a single or multiple adhesive coating on the underside of each support assembly **1063**. Said coatings have typical dimensions in the range of about 0.25 mm to about 5 mm in width and about 0.5 mm to about 50 mm in length.

[0132] FIG. **11** is an exploded diagram illustrating an exemplary reader **13**. It comprises a mechanical assembly **1182** that receives and aligns the cartridge **11**, one or two light delivery arms **1183** which contain sources of radiation **1184**, a sensing arm **1185**, and, also, electronic circuitry to amplify and/or pre-process the detected signals. In operation, the cartridge **11** is introduced into the reader **13** via a socket in the mother instrument **12**. The mechanical assembly **1182** receives and aligns the cartridge **11** so that one or more rows of sensor pads **45** are in precise alignment with the light delivery **1183** and sensing **1185** arms, and so that the cartridge